MILITARY SPECIFICATION SHEET

ELECTRON TUBE, RECEIVING

TYPE 6L6WGB

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the electron tube described herein shall consist of this document and the latest issue of Specification MIL-E-1.

DESCRIPTION: Pentode, rugged, beam-power amplifier

Outline --- 11-2 (EIA) except for base

Base --- B7-59 or B6-84 (phenolic)

Envelope --- T11

Cathode --- Coated unipotential

Base connections:

Pin No.		1	2	3	4	5	7	8
Element	---	nc	h	a	g2	g1	h	k, beam plates

ABSOLUTE-MAXIMUM RATINGS:

Parameter:	Ef	Eb	Ec1	Ec2	Ehk	Pp	Pg2	Alt
Unit:	V	Vdc	Vdc	Vdc	v	W	W	ft
Maximum:	6.9	400	---	300	200	26	3.5	Note 1
Minimum:	5.7	---	---	---	---	---	---	---
TEST CONDITIONS:	6.3	250	-14	250	---	---	---	---

GENERAL:

Qualification - Required

(D) denotes changes

METHOD	REQUIREMENT OR TEST	CONDITIONS	AQL (PERCENT DEFECTIVE)	INSPECTION LEVEL OR CODE	SYMBOL	LIMITS MIN	LIMITS MAX	UNIT
	<u>Qualification inspection</u>							
1216	Base material insulating quality	Zone 5 (min)	---	---	---	---	---	---
1031	Variable-frequency vibration	Rp = 2,000 ohms; Ec1 = -27 Vdc	---	---	Ep	---	1,000	mVac
	<u>Quality conformance inspection, part 1</u>							
1266	Total grid current	Eb = 400 Vdc; Ec2 = 300 Vdc; Ec1 = -22 Vdc (see note 2)	0.65	II	Ic1	0	-3.0	µAdc
1256	Electrode current (anode)	Eb = 400 Vdc; Ec2 = 300 Vdc; Ec1 = -22 Vdc	0.65	II	Ib	50	80	mAdc
1256	Electrode current (screen)	Eb = 400 Vdc; Ec2 = 300 Vdc; Ec1 = -22 Vdc	0.65	II	Ic2	0	5.0	mAdc
1341	Power output	Esig = 9.8 Vac; Rp = 2,500 ohms	0.65	II	Po	5.4	---	W
1231	Emission	Eb = Ec1 = Ec2 = 50 Vdc (see note 2)	0.65	II	Is	275	---	mAdc
1201	Short and discontinuity detection		0.4	II	---	---	---	---
	<u>Quality conformance inspection, part 2</u>							
1211	Insulation of electrodes		4.0	S3	---	---	---	---
1301	Heater current		---	---	If	840	960	mA
1336	Heater-cathode leakage		---	---	Ihk	---	75	µAdc
1306	Transconductance		---	---	Sm	5,200	6,800	µmhos
1246	Audio frequency noise	Ecal = 280 mVac; Rp = 2,000 ohms	2.5	S3	EB	---	17	vu
1031	Low-frequency vibration	Rp = 2,000 ohms; Ec1 = -27 Vdc	---	---	Ep	---	1,000	mVac
1041	Shock	450 G; Ehk = 100 Vdc (see note 3)	---	---	---	---	---	---
1031	Vibration-fatigue test	2.5 G; F = 25 min, 60 max; fixed frequency	6.5	See note 4	---	---	---	---
---	Post-shock and vibration-fatigue test end points	Low-frequency vibration	---	---	Ep	---	1,000	mVac
		Heater-cathode leakage;	---	---	Ihk	---	100	µAdc
		Transconductance	---	--	Sm	4,500	---	µmhos
1101	*Secureness of base, cap, or insert*		---	---	---	---	---	---

METHOD	REQUIREMENT OR TEST	CONDITIONS	AQL (PERCENT DEFECTIVE)	INSPECTION LEVEL OR CODE	SYMBOL	LIMITS		UNIT
						MIN	MAX	
	Quality conformance inspection, part 2 -Continued							
1126	Glass envelope strain		4.0	I	---	---	---	---
1111	Base pin solder depth		---	---	---	---	---	---
1105	Permanence of marking		---	---	---	---	---	---
	Quality conformance inspection, part 3							
1501	Intermittent life	Group B; Ehk = 200 V; Eb = 400 Vdc; Ec2 = 300 Vdc; Ec1 = -22 Vdc	---	---	---	---	---	---
---	Intermittent life-test end points (500 hours)	Power output or	---	---	Po	4.0	---	W
		Transconductance	---	---	Sm	4,500	---	μmhos

NOTES:

1. See "Reduced pressure (altitude) rating", and altitude, maximum peak voltage in the basic document.

(D) 2. The following tests are to be the first tests performed after the holding period in the following sequence: Total grid current; Emission.

3. A grid resistor of 0.1 megohm shall be added; however, this resistor shall not be used when a thyratron-type short indicator is used.

4. This test shall be conducted on the initial lot and thereafter on a lot approximately every 6 months. When one lot has passed the 6-month rule shall apply. In the event of lot failure, the lot shall be rejected and the succeeding lots shall be subjected to this test until a lot passes. MIL-STD-105, sample size code letter E, shall apply.

Custodians:
Army - EL
Navy - EC
Air Force - 85

Review activities:
Army - MU
Air Force - 17, 80
DSA - ES

User activities:
Army - WC
Navy - AS, OS, MC, CG, SH
Air Force - 11, 19

Preparing activity: Navy - EC

Agent: DSA - ES

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